App. No. 09/895,449
Amdt. dated June 10, 2004
Reply to Office Action of February 10, 2004

REMARKS

Claims 1-29 were pending in this application before submission of this paper. Claims 1-29 were rejected. Claims 8, 20 and 25 have been amended to correct minor infelicities. Claims 30 and 31 are newly added. No new matter has been added. Claims 1-31 are currently pending. In view of the amendments and the following remarks, reconsideration and allowance of all pending claims are respectfully requested.

Claims 1-29 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,241,673 issued to *Schelvis* in view of U.S. Patent No. 5,829,034 issued to *Hagersten et al.* Applicant respectfully traverses this rejection. Neither *Schelvis, Hagersten et al.*, nor any combination thereof teach all of the features recited in Applicants' Claims.

The Office Action rejected independent Claim 1 by citing a procedure described in *Schelvis* for garbage collecting unused memory space. Claim 1 teaches "detaching the identified object from the namespace while maintaining the identified object in a location in memory;...[and] identifying a device associated with the identified object as invalid." The method taught by Claim 1 is significantly different from the procedure in *Schelvis* cited by the Office Action.

The procedure in *Schelvis* is directed to garbage collecting unused memory space such that inaccessible data information occupying memory space is removed from memory to free previously occupied memory space. However, *Schelvis* does not describe anything about detaching an identified object from a namespace while maintaining the identified object in a location in memory, or identifying a device associated with the identified object as invalid as claimed in Applicants' Claim 1. Applicants respectfully submit that the rejection of Claim 1 is overcome and request that the rejection be withdrawn.

The Office Action rejected Claim 2 by citing various available states that may be stored in a memory tag as described in *Hagersten et al.* Claim 2 teaches "prior to detaching the identified object, suspending power management and configuration management activity to put the namespace in a steady state; and after the identified object is detached from the namespace, resuming power management and configuration management activity." The method taught by

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Claim 2 is significantly different from the procedure in *Hagersten et al.* cited by the Office Action.

The cited passage in *Hagersten et al.* describes three possible states of a memory block that is held by entities within a computer node. The cited passage does not disclose anything related to power management or configuration management activity. Specifically, *Hagersten et al.* does not teach "prior to detaching the identified object, suspending power management and configuration management activity to put the namespace in a steady state; and after the identified object is detached from the namespace, resuming power management and configuration management activity," as described in Applicants' Claim 2. Applicants respectfully submit that the rejection of Claim 2 is overcome and request that the rejection be withdrawn.

The Office Action rejected Claim 3 by citing a passage in *Schelvis* that briefly describes garbage collection. Claim 3 teaches "prior to detaching the identified object, locking access to the namespace; and after the identified object is detached from the namespace, unlocking access to the namespace." The method taught by Claim 3 is significantly different from the procedure in *Schelvis* cited by the Office Action.

The cited passage in *Schelvis* describes that garbage collection involves the freeing up of memory space by reclaiming memory space previously occupied that is now occupied by inaccessible information. The cited passage does not disclose anything related to locking or unlocking access to a namespace. Specifically, *Schelvis* does not teach "prior to detaching the identified object, locking access to the namespace; and after the identified object is detached from the namespace, unlocking access to the namespace," as described in Applicants' Claim 3. Applicants respectfully submit that the rejection of Claim 3 is overcome and request that the rejection be withdrawn.

The Office Action rejected Claim 4 by citing a passage in *Schelvis* that briefly describes garbage collection. Claim 4 teaches "the unload notification indicates that a hardware device associated with the object is being made unavailable." The method taught by Claim 4 is significantly different from the procedure in *Schelvis* cited by the Office Action.

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The cited passage in *Schelvis* describes that garbage collection involves the freeing up of memory space by reclaiming memory space previously occupied that is now occupied by inaccessible information. The cited passage does not disclose anything related to an unload notification. Specifically, *Schelvis* does not teach "the unload notification indicates that a hardware device associated with the object is being made unavailable," as described in Applicants' Claim 4. Applicants respectfully submit that the rejection of Claim 4 is overcome and request that the rejection be withdrawn.

The Office Action rejected Claim 5 by citing the abstract in *Schelvis*. Claim 5 teaches "the unload notification comprises means for indicating that the hardware device is being made unavailable." The method taught by Claim 5 is significantly different from the procedure in *Schelvis* cited by the Office Action.

The abstract in *Schelvis* describes that garbage collection is directed to removing inaccessible data information from memory space to free previously occupied memory space. The cited passage does not disclose anything related to indicating the unavailability of a hardware device. Specifically, *Schelvis* does not teach "the unload notification comprises means for indicating that the hardware device is being made unavailable," as described in Applicants' Claim 5. Applicants respectfully submit that the rejection of Claim 5 is overcome and request that the rejection be withdrawn.

The Office Action rejected Claim 6 by stating that the claimed limitations are inherent in the system in order to make the hardware device unavailable. As discussed above in reference to Claim 5, *Schelvis* does not disclose anything related to the unavailability of a hardware device. Thus, the limitations of Claim 6 are not inherent in the system. Applicants respectfully submit that the rejection of Claim 6 is overcome and request that the rejection be withdrawn.

The Office Action rejected Claims 7 and 8 by citing a passage in *Schelvis* that describes a specific instance garbage collection. Claim 7 teaches that "the interrupt comprises a general purpose event signal." Claim 8, as amended, teaches that "the general purpose event signal is generated by the device associated with the identified object." The limitation of Claims 7 and 8 are significantly different from the procedure in *Schelvis* cited by the Office Action.

The cited passage in *Schelvis* describes removing dead nodes to free previously occupied dead space. The cited passage does not disclose anything related to a general purpose event signal. Specifically, *Schelvis* does not teach that "the interrupt comprises a general purpose event signal," as described in Applicants' Claim 7. Nor does *Schelvis* teach that "the general purpose event signal is generated by the device associated with the identified object," as described in Applicants' Claim 8. Applicants respectfully submit that the rejections of Claims 7 and 8 are overcome and request that the rejections be withdrawn.

The Office Action rejected Claim 9 by citing a passage in *Hagersten et al.* that describes the components of a memory access request. Claim 9 teaches "detaching the identified object comprises severing a link between the identified object and the namespace and flagging another object in the namespace to indicate that the identified object has been severed." The method taught by Claim 9 is significantly different from the procedure in *Hagersten et al.* cited by the Office Action.

The cited passage in *Hagersten et al.* describes that a memory access request includes a type field, an address field, a source ID field, and an own flag. The cited passage does not disclose anything related to severing a link. Specifically, *Hagersten et al.* does not teach "detaching the identified object comprises severing a link between the identified object and the namespace and flagging another object in the namespace to indicate that the identified object has been severed," as described in Applicants' Claim 9. Applicants respectfully submit that the rejection of Claim 9 is overcome and request that the rejection be withdrawn.

The Office Action rejected Claim 11 by citing the title of *Schelvis*. Claim 11 teaches "the notification that the associated device is no longer being used comprises a notification that a reference count associated with the identified object has passed a predetermined threshold." The method taught by Claim 11 is significantly different from the description of the title of *Schelvis* cited by the Office Action.

The title of *Schelvis* is "system for garbage collecting unused memory space represented by a digraph by assigning values of node identifiers to selected variables based upon predetermined conditions." The title does not disclose anything related to a reference count or a threshold. Specifically, *Schelvis* does not teach "the notification that the associated device is no

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longer being used comprises a notification that a reference count associated with the identified object has passed a predetermined threshold," as described in Applicants' Claim 11. Applicants respectfully submit that the rejection of Claim 11 is overcome and request that the rejection be withdrawn.

Claims 13, 19 and 25 include limitations substantially similar (albeit different in other important ways) to the limitations claimed in Claim 1. Similarly, newly added Claims 30 and 31 include limitations substantially similar (albeit different in other important ways) to the limitations claimed in Claim 1. As discussed above, Claim 1 is allowable. Thus, Claims 13, 19, 25, 30 and 31 are allowable for at least the same reasons that Claim 1 is allowable, and notice to that effect is solicited.

Claim 17 includes limitations substantially similar (albeit different in other important ways) to the limitations claimed in Claim 9. As discussed above, Claim 9 is allowable. Thus, Claim 17 is allowable for at least the same reasons that Claim 9 is allowable, and notice to that effect is solicited.

The Office Action states that Claims 13-29 are rejected for the same reasons that Claims 1-12 are rejected. Applicants respectfully point out that the limitations of Claims 14-16, 18, 20-24 and 26-29 are not the same as those in Claims 1-12. Applicants respectfully submit that the rejection of Claims 14-16, 18, 20-24 and 26-29 are overcome and request that the rejection be withdrawn. If the Examiner does not believe these Claims to be allowable, Applicants respectfully request that these Claims be addressed independently.

Claims 2-12, 14-18, 20-24 and 26-29 are dependent on Claims 1, 13, 19 and 25, respectively. As discussed above, Claims 1, 13, 19, and 25 are allowable. Thus, Claims 2-12, 14-18, 20-24 and 26-29 are allowable for at least the same reasons that the base claims on which they rely are allowable, and notice to that effect is solicited.

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      In view of the foregoing remarks, all pending claims are believed to be allowable and the application is in condition for allowance. Therefore, a Notice of Allowance is respectfully requested. Should the Examiner have any further issues regarding this application, the Examiner is requested to contact the undersigned attorney for the applicant at the telephone number provided below.

                            Respectfully submitted,

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